



# Northside Independent School District

## TRANSPORTATION DEPARTMENT

- **Program:**

Northside ISD encompasses the northwest quadrant of San Antonio and Bexar County Texas covering approximately 360 square miles. Northside ISD transports 32,000 students to and from school and related events on a daily basis logging nearly 8 million miles annually on Propane powered school buses.

- **History:**

Northside ISD has converted school buses and transportation service vehicles to Propane since 1980. The district has steadily increased the number of converted vehicles to the extent that by the end of the 2000/2001 school year, Northside ISD will operate 94% (430) of its 472 school buses on Propane in either dedicated or bi-fuel configurations. Northside ISD is committed to the ultimate operation of all of its school buses on Propane.

- **Equipment:**

Northside ISD operates International Harvester and General Motors buses on Propane utilizing Impco components (425 Mixer, Model E Vaporizer, and VFF-30 Fuel Lock-off) in most of its fuel systems with Autotronics and Baytech processors. Some units are equipped with Technocarb systems. Most buses are equipped with Manchester tanks with some Cal-Tank units in use.

- **Cost Savings:**

Northside ISD can expect a net cost savings of \$1,335.00 per year, per vehicle in fuel and maintenance costs using Propane versus Gasoline according to the Texas Railroad Commission's Life Cycle Cost Benefit Analysis. Cost savings using Propane versus Diesel will be \$1,100.00 per year, per vehicle. Conversion costs will be paid back in approximately 1.4 years. Northside ISD operates an 18 year retirement program on it's vehicles.

- **Reduced Maintenance:**

Through oil analysis, Northside ISD, has been able to increase its engine oil change intervals with the use of Propane as its primary motor fuel. Propane

has proven to increase the life expectancy of engines, which has allowed us to increase the life cycle of our school buses. Gasoline engines have proven to be less expensive to maintain overall than are diesel engines. Should an engine replacement become necessary, gasoline engines are far less costly than diesel engines.

- **Environmental Benefits:**

Northside ISD feels that our contribution to cleaner air in our region is a very positive bi-product of our alternative fuels program. Our Propane powered vehicles emit on average approximately 65% fewer hydrocarbons and toxins into the atmosphere than do gasoline powered vehicles according to Northside ISD preventative maintenance checks and emissions tests. This means that the Propane powered Northside ISD buses emit 325 PPM (parts per million) fewer hydrocarbons daily per vehicle vs. Gasoline as a result of their conversion to Propane.

- **Safety:**

Northside ISD has experienced an excellent safety record with the use of Propane as our primary motor fuel. Since 1980, 80 million miles have been logged by Propane powered Northside ISD school buses. There have been no major incidents as a result of fuel system malfunctions. Northside ISD buses have been involved in accidents where the Propane tank on the bus absorbed the impact of the other vehicle involved. One accident involved the other vehicle traveling at highway speeds. The resulting damage to the tank was virtually nonexistent, amounting only to scratched paint on the container.

The Texas Railroad Commission performs annual inspections on all Propane powered Northside ISD vehicles for proper installation and maintenance of the fuel systems to insure the safe operation of our Propane powered fleet.

- **Training:**

The Alternative Fuels Research and Education Division of The Texas Railroad Commission provides safety, technical, and diagnostic training in either a classroom or electronic media (CD-ROM) format.

- **The Future:**

Overall, the past experience Northside ISD has had with Propane as its primary motor fuel has shown us that it is clearly the path to be followed in the future.